# Self-care in Iranian cancer patients: The role of religious coping


## ABSTRACT

Religious and spiritual practices are related to physical and mental health. Social support is an important source to aid coping, but this is not without its difficulties. This study was conducted to investigate the relationship between religious coping and self-care in a sample of 380 Iranian cancer patients. Data was collected using socio-demographic, religious coping (R-COPE) and self-care questionnaires. Male patients (48.39±13.39; 95% CI: 46.41-50.38) were older than the females patients (45.33±18.44; 95% CI: 42.79-47.87). The findings indicated that there was a significant correlation between self-care and positive religious coping and that there was a significant relationship between self-care and a history of smoking ($p$<0.05). It seems that improving the level of positive religious affiliation can have beneficial effect on the self-care of cancer patients. Therefore, it is necessary to conduct these studies with greater scale and more different societies to achieve more reliable results about the effects of religious coping on self-care behaviors in cancer patients.



**Key words:** Self-care, cancer, religious coping, Iran, cancer patients.

## Introduction

According to a World Health Organization's report, the number of deaths caused by cancer in the United States of America (USA) has been estimated to increase to more than 800 thousand people, and it is expected that this trend will continue in an upward trajectory (Goldman & Bennet, 2000; Goudarzian, Bagheri Nesami, Zamani, Nasiri, & Beik, 2017). In Iran, the number of cancer patients has increased 3.3 times from 1364 to 1384 (Mousavi et al., 2009).

In cancer patients, self-care means an increased quality of life, managing symptoms, and increasing satisfaction WITH LIFE? (Johnston et al., 2009). The National Comprehensive Cancer Network (NCCN), according to the instructions of 2016, has presented recommendations for patients to be actively involved in their treatment. This includes educating patients and families about self-care, fatigue management strategies, pharmacological, and finally non-pharmacological interventions (O'Regan & Hegarty, 2017).

Previous research has stated that religion is one of the factors affecting self-care (e.g. Rahnama et al., 2015). Therefore, it seems to follow that there is evidence that religious and spiritual practices may be related to physical and mental health and social support as one of the coping sources (Heidari, Raisi, Ahmari-Tehran, & Khorami-Rad, 2013). Psychologists now suggest that it is not enough just to use common methods to treat and cope with different physical illnesses (Kiani & Hesabi, 2017). The use of incentives and religious beliefs is a non-conventional way for this issue (H. G. Koenig, 2007). Religious coping, with the help of religious measures is to deal with external and internal stress and pressure (Heydari Fard & Bagheri Nesami, 2012). This issue is very important in cancer patients due to the risk of developing stress due to various pressures which occur due to having an illness of this type

(Esmaeili, Hesamzadeh, Bagheri-Nesami, & Berger, 2015; Hynes, 1996; Phelps et al., 2009). These guidelines are an intrinsic process applied by a person in the face of everyday problems (Bagheri Nesami, Goudarzian, Zarei, et al., 2015). Religious coping is one of the most important types of coping strategies, which included concepts such as trust in God (Bagheri Nesami, Goudarzian, Zarei, et al., 2015; Billings & Moos, 1984) as a method for dealing with life changing illnesses such as cancer. Positive religious coping is the style of dealing with negative life events with the help of God. However, in the negative religious coping, avoidant and insecure individual relationship with God is measured (Bagheri Nesami, Kazemi, Goudarzian, Nasiri, & Davari, 2017; Kenneth & Hahn, 1986) BY WHAT. According to the existing theories, the researchers concluded that religious coping behavior can make the patient more comfortable in order to cope with the illness and control it (Bagheri Nesami, Rafii, & Oskouie, 2010; Hebert, Zdaniuk, Schulz, & Scheier, 2009; Ramirez et al., 2012).

***Background***

Research findings seemed to indicate that religious coping creates a positive view in patients with chronic diseases and, furthermore, the creation of motivation and power will result in increasing the self-care behaviors in the individual (G. K. Koenig, 2004). In fact, religious coping can maintain self-esteem as well as psychological relief and there is hope that these factors will cause an increase in the accuracy of self-care (Bagheri Nesami, 2014; Büssing, Fischer, Ostermann, & Matthiessen, 2008; Büssing et al., 2009; Hebert et al., 2009). The framework for this research is influenced mainly by the existing theoretical models in organizational psychology and nursing research. In the study of Jafari et al. (2015) which was conducted on patients with type 2 diabetes, a significant relationship was found between religious orientation and self-care. Sharif Nia et al. (2017) also demonstrated an independent

significant association between positive religious coping and self-care behaviors in patients with chronic illness.

But in a qualitative study by Ahmadi and Anoosheh (2011) [quality of life and religious coping in diabetic patients], it was stated that there was found to be no relationship between these two variables. For the past decades, researchers have been seeking to identify the characteristics, functions, expressions, or manifestations of practising religion or being religious, that exert health-related effects. Several researchers have proposed that particular types or modes of religious expression or identification may be associated with certain respective bio-behavioural or psychosocial constructs that, independently of religion, are known or believed to be related to health (Ellison & Levin, 1998). According to Lazarus and Launier (1978), coping refers to "efforts, both action-oriented and intra psychic, to manage (that is, master, tolerate, reduce, minimise) environmental and internal demands and conflicts among them, which tax or exceed a person's resources". Although researchers interested in coping have overlooked the role of religion over many years, there is mounting evidence that religious cognitions and behaviors can offer effective resources for dealing with stressful events and conditions (Prati & Pietrantoni, 2009). Coping with stress, in turn, has been shown to be a powerful factor in both preventing disease and hastening recovery from illness. Religious coping is especially popular and apparently effective for certain social groups (e.g., African Americans, elders, and women). In addition, religious cognitions and behaviours, especially those centering on prayer, meditation, and other devotional pursuits, seem to be especially valuable in dealing with serious health problems (both acute and chronic) and bereavement (Idler, 1995; Mattlin, Wethington, & Kessler, 1990; Prati & Pietrantoni, 2009). Health crises and bereavement are events and conditions that (1) may lack clear or satisfying worldly explanations, (2) may constitute

"boundary experiences" in that they challenge fundamental premises of existence (or, indeed, threaten existence itself), (3) may undermine common sense notions that the world is just and that people "get what they deserve" (e.g., premature or violent deaths, unexpected accidents), and (4) may require emotion management instead of pragmatic problem-solving efforts (Levin, 1993; Prati & Pietrantoni, 2009).

*The current study*

According to the literature available, it seems that no study has been undertaken on the relationship of self-care behaviours with religious coping in cancer patients. Also, based on the literature, there were a number of conflicts amongst the past studies thus indicating the need to design future studies which help to demystify the aspects of this topic. Despite the high prevalence of CANCER?  in Iran, this study was undertaken to determine the relationship between self-care and religious coping in cancer patients. Generally, based on the literature reviewed earlier and for the purpose of this study, the following hypotheses were developed:

H1: There is a relationship between religious coping and self-care in cancer patients.

H2: Demographic variables are associated with self-care in cancer patients.

## Methods

*Design*

In this cross-sectional study (October to December, 2015), 380 cancer patients, who were admitted to one of the associated university's medical sciences hospitals (Sari, Iran) were entered into the study using non random sampling (accessible sampling). In this interval of four months,

about 600 patients were admitted to the oncology ward of these hospitals. From these patients, 450 patients met the inclusion criteria (see Diagram 1). In total, 380 patients were accepted to participate in this study which indicated a response rate of 63.3%. The adequacy of the sample size was calculated to be 380 based on two-sided significant degree, $\alpha=0.05$ and test power of 80 ($d=0.3$) using G*power 3.0.10 software.

[Please insert Diagram 1 around here]

*Criteria*

Inclusion criteria included age (18 years or older), cancer treatment with radiation, chemotherapy or surgery, not taking antidepressants in the last six months, no transfer of patients to other hospitals, and finally no occurrence of acute medical conditions (such as loss of consciousness). The purpose of the study and guides for completing the questionnaires were described to participants. Also, a informed consent form was signed by the patients. The necessary explanation regarding the objectives of the study was given to patients and the questionnaires were distributed.

*Data collection tools*

Data were collected using a demographic questionnaire, self-care and Pargament religious coping (R-COPE). The Demographic questionnaire included items such as age, sex, education level, economic status, family history of cancer, and stage of the cancer.

*Self-care questionnaire*

Self-care questionnaire that was published by the Iran Ministry of Health, contained four items including physical, psychological care, emotional, and spiritual self-care which, overall has 34 items (Education). The scoring method utilised a Likert scale from 1 to 5 (do not have a

program, never, rarely, sometimes or always) (Bagheri Nesami, Goudarzian, Mirani, Sabourian Jouybari, & Nasirii, 2016). Total score ranged from 34 to 170 and was categorised as 34-67 (poor), 68-101 (average), 102-135 (good), and 136-170 (excellent) levels of self-care. Bagheri Nesami, Goudarzian, Ardeshiri, and Babaie Holari (2015) calculated the reliability to be 0.83 by evaluating the tool in elderly patients. Also in another study, the reliability of this instrument was calculated to be 0.841 by class correlation coefficient (Bagheri Nesami et al., 2016). In this study, the reliability of this tool in cancer patients was calculated to be 0.792 using Cronbach's alpha.

*Religious coping questionnaire (R-COPE)*

Religious coping methods were investigated using *R-COPE*. This standard questionnaire had 14 items to measure positive and negative religious coping and it was made by Kenneth Pargament (Stefan, Detlev, Christoph, Lukas, & Azan, 1996). Each positive and negative scale included seven options of religious coping test. The scoring method utilises a Likert scale, from “not at all” to “many times”. Positive religious coping is a style of dealing with negative life events in which a person using the evaluation and positive changes associated with God deals with those events. A person believes that God will not abandon them, when confronting sad events. But the other form of coping which is called “negative coping” is when a person establishes an avoidant and insecure relationship with God. For example, one believes that God will leave them alone in difficult moments (Ramirez et al., 2012). In the study of Bagheri-Nesami et al. (2015) which was conducted using a participant sample of university students, an acceptable reliability for this tool was reported (Cronbach's alpha= 0.82) (Bagheri Nesami, Goudarzian, Zarei, et al., 2015).

*Statistical analysis*

The statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, IL, USA) was used for the data analysis. First, descriptive statistics for continuous variables were shown as means and standard deviation (SD) and n (%) for the categorical variables. Spearman's correlations were used to probe the relationship between self-care and religious coping. Finally, the predictors associated with self-care were determined using Generalised Linear Models (GLM). Statistical significance was set at $p < 0.05$.

*Ethical considerations*

This study was confirmed by the Ethics Committee of Mazandaran University of Medical Sciences (Ref: IR.MAZUMS.REC.95.S.110). Patients were informed about the study objectives and procedures. Moreover, they ensured that participation was voluntary and it would not affect the course of their treatment. The confidentiality of patients' information was guaranteed. Informed consent was obtained from all participants.

## Results

*Preliminary analyses and descriptive information*

Demographic characteristics of 380 cancer patients are shown in Table 1. Males (48.39±13.39; 95% CI: 46.41-50.38) are older than females (45.33±18.44; 95% CI: 42.79-47.87). The mean total score of self-care, negative, and positive religious coping was (131.72±12.45; 95% CI: 130.47-132.98), (18.22±3.25; CI95:18.12-18.74), and (18.43±3.11; CI95:17.89-18.55), respectively.

[Insert Table 1]

*Relationship between self-care and religious coping (positive and negative)*

The results of Spearman's correlation analysis (Table 2) showed that there was a positive and significant correlation between self-care and positive religious coping (r=0.188, $p$=0.009) and negative correlation with negative religious coping (r= -0.199, $p$=0.009). According to the results of generalised linear regression models in Table 3, there was no significant relationship between self-care and religious coping in cancer patients ($p > 0.05$).

*Relationship between self-care and demographic profile of cancer patients*

In addition, there is a significant relationship between self-care and economic situation ($p<0.05$), age ($B$=-0.16; $p$=0.008), marital status ($B$=13.562; $p$=0.0001), history of cigarette smoking ($B$=-6.608; $p$=0.0001), and family history of cancer ($B$=-3.099; $p$=0.026) in cancer patients.

[Insert Table 2]

[Insert Table 3]

## Discussion

This study was conducted to determine the relationship between religious coping and self-care in cancer patients. Findings of the study showed that positive religious coping was higher in the patients as compared to negative religious coping. This finding was supported by previous research studies (Ursaru, Crumpei & Crumpei, 2014); & Khodaveirdyzadeh et al., 2016). On the other hand, Nelson, Rosenfeld, Breitbart, and Galietta (2002), McCoubrie and Davies (2006), and Khezri, Bahreyni, Ravanipour, and Mirzaee (2015) stated that negative religious coping in the cancer patients has been higher than the positive religious coping. The possible reasons for these differences could be the sample size and religious and cultural differences of the participants in the study.

One the most important results of this study is the positive and significant relationship between positive religious coping and self-care in the patients. Jafari et al. (2015) in a study on diabetic patients stated that religious belief increased the amount of self-care in diabetic patients. Also, Sharif Nia et al. (2017) in another study pointed out the relationship between religious coping and self-care among Iranian students. In line with these studies, Heidari, Rezaei, Sajadi, Mirbagher Ajorpaz, and Koenig (2017) in another study found that there was a relationship between religious practices and self-care in patients with type 2 diabetes. In fact, it can be stated that religion and spirituality affect the assessment of the situation in people by strengthening their compliance with various diseases in acute and chronic conditions (Giovagnoli, Meneses, & da Silva, 2006; Taheri-Kharameh, Saeid, & Ebadi, 2017). On the other hand, the feeling of belonging to a source of the sublime, hope in God's help, and benefiting from moral support in stressful life situations are all the methods which can reduce the risk of vulnerabilities in religious people (Abdoli, Ashktorab, Ahmadi, Parvizy, & Dunning, 2011; Shakibazadeh et al., 2011). With this interpretation, it can be stated that religious beliefs create incentive for the sound control of daily activities and increase the resources of inner strength and life expectancy (Askari & Nikmanesh, 2014) which is followed by more self-care behaviors reflected in people. A more interesting and robust association was found between physical health status with religious television and radio (RTV) and religious coping, although not in the same direction as other religious measures. Those who engage more frequently in that activity had significantly more comorbid medical illnesses and tend to report poorer physical functioning, an association which was found primarily in younger patients (aged 50-64). The frequency of religious coping has also been correlated with higher blood pressure (H. G. Koenig et al., 1998), worse overall health and more depressive symptoms (H. G. Koenig et al., 1997) in studies of the community-

dwelling elderly and with more generalised anxiety in younger populations (H. G. Koenig, Ford, George, Blazer, & Meador, 1993). It is difficult to imagine why frequent RTV would cause a worsening of physical health status, except by fostering physical inactivity, but it could be that poorer physical functioning and more comorbid medical illness made it difficult for such patients to attend religious meetings and this was compensated by turning to RTV.

Furthermore, the results of the present study showed that variables such as age, socioeconomic status, marital status, family history of cancer, and a history of smoking are good predictors to determine the self-care behaviors in patients. In another study, the two variables of age and sex were good predictors in order to determine self-care behaviors OF WHO? whilst in the present study the variable 'gender' was not a significant and good predictor when determining the amount of self-care of participants in the study (Albright, Parchman, & Burge, 2001). The aforementioned study was conducted on patients with type II diabetes. The probable cause of this inconsistency can be the type of participants' disease and self-care instrument used to measure the amount.

*Limitations of the study*

Differences in cultural situations (was not controllable in the study) and lack of accuracy when completing the questionnaire (because of the difficult situation related to the treatment procedures) were the most important limitation of this study. Also, relationships with physical health were less frequent than psychosocial factors. This was partly expected, because religious beliefs and practices are often used to help cope with medical illnesses and as the severity of illness increases, religious activities, especially private ones, likewise increase (H. G. Koenig, George, & Titus, 2004). Thus, even if religious factors helped to prevent disability and limit the

severity of medical illness, this would be difficult to demonstrate in a cross-sectional study, in which sick patients turning to religion could neutralise such effects (H. G. Koenig et al., 2004).

*Recommendations for future research*

It is recommended that more detailed studies should be conducted to demonstrate replicability with different samples. For example, future similar studies with samples from different disease groups and also longitudinal and RCT designs are suggested to verify the findings of this study. Furthermore, since there is an Iranian diaspora across the world who may have a percentage with cancer, performing this study in Iran, Europe, Asia, and USA would be beneficial so as to determine its generalisability to all Iranian populations.

*Application of the results*

This research provides information about Iranian cancer patients that may help to inform the development of strategies to promote better disease adaptation and self-management. It also fills a gap in cancer literature by reporting quantitative data on coping styles, relative to self-care behaviours. Since cancer patients are affected with a variety of complications during their life, which can undermine their quality of life and with the fact that self-care improves the level of health in these patients, it is necessary to improve the level of self-care in this particular group. According the present results, it seems that relying on religious issues and religious coping methods (especially that of positive religious coping) and having a sense of satisfaction and pleasure about the actual events can significantly help in improving the level of self-care in patients. Therefore, it is recommended that attention be given to the issues of religious coping along with other aspects of supportive care provided at health centers and other health outlets.

## Conclusions

Considering the results of the present study, a significant correlation was found between positive religious coping and self-care behaviors. Also, self-care had a significant relationship with age, economic status, marital status, and history of cigarette smoking. However, it is necessary to conduct these studies on a greater scale such as sample size and population types so that results can be disseminated with more commensurate levels of confidence in the results obtained.

## Disclosure statement

No potential conflict of interest was reported by the author.

## References


Abdoli, S., Ashktorab, T., Ahmadi, F., Parvizy, S., & Dunning, T. (2011). Religion, faith and the empowerment process: Stories of Iranian people with diabetes. *International Journal of Nursing Practice 17*(3), 289-298. doi: 10.1111/j.1440-172X.2011.01937.x.

Ahmadi, F., & Anoosheh, M. (2011). Spiritual beliefs and quality of life: A qualitative research about diabetic adolescent girls' perception. *Koomesh, 12*(2), 144-151.

Albright, T. L., Parchman, M., & Burge, S. K. (2001). Predictors of self-care behavior in adults with type 2 diabetes: an RRNeST study. *Fam Med, 33*(5), 354-360.

Askari, N., & Nikmanesh, Z. (2014). The Role of Religious Coping in Predicting Quality of Life in Patients with Multiple Sclerosis. *Armaghane Danesh, 19*(5), 470-479.

Bagheri Nesami, M. (2014). The role of Religious behaviors in health promotion of Iranian Elderly women A: qualitative study. *Journal of Religion and Health, 2*(1), 31-41.

Bagheri Nesami, M., Goudarzian, A. H., Ardeshiri, M., & Babaie Holari, M. (2015). Self-care behavior and its related factors in the community-dwelling elderlies in Sari, 2014. *Journal of Clinical Nursing and Midwifery, 4*(4), 48-56.

Bagheri Nesami, M., Goudarzian, A. H., Mirani, H., Sabourian Jouybari, S., & Nasirii, D. (2016). Association Between Self-care Behaviors and Self-esteem of Rural Elderlies; Necessity of Health Promotion. *Mater Sociomed, 28*(1), 41-45. doi: 10.5455/msm.2016.28.41-45

Bagheri Nesami, M., Goudarzian, A. H., Zarei, H., Esameili, P., Dehghan Pour, M., & Mirani, H. (2015). The Relationship Between Emotional Intelligence with Religious Coping and General Health of Students. *Mater Sociomed, 27*(6), 412-416. doi: 10.5455/msm.2015.27.412-416

Bagheri Nesami, M., Kazemi, A., Goudarzian, A. H., Nasiri, F., & Davari, J. (2017). Association Between Religious Coping and Quality of Working Life in Nurses. *Iranian Journal of Psychiatry and Behavioral Sciences, 11*(1). doi: 10.17795/ijpbs-4946

Bagheri Nesami, M., Rafii, F., & Oskouie, S.F. (2010). Coping Strategies of Iranian Elderly Women: A Qualitative Study. *Educational Gerontology, 36*(7), 573-591. doi: 10.1080/03601270903324438

Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of Personality and Social Psychology, 46*(4), 877-891.

Büssing, A., Fischer, J., Ostermann, T., & Matthiessen, P. F. (2008). Reliance on God's help, depression and fatigue in female cancer patients. *The International Journal of Psychiatry in Medicine, 38*(3), 357-372.

Büssing, A., Michalsen, A., Balzat, H. J., Grünther, R. A., Ostermann, T., Neugebauer, E, & Matthiessen, P. F. (2009). Are spirituality and religiosity resources for patients with chronic pain conditions? *Pain medicine, 10*(2), 327-339. doi: 10.1111/j.1526-4637.2009.00572.x

Education, Ministry of Health and Medical.). Health Education & Promotion Dept. from http://iec.behdasht.gov.ir/index.aspx?fkeyid=&siteid=143&pageid=52912&p=2

Ellison, C. G., & Levin, J. S. (1998). The Religion-Health Connection: Evidence, Theory, and Future Directions. *Health Education & Behavior, 25*(6), 700-720.

Esmaeili, R., Hesamzadeh, A., Bagheri-Nesami, M., & Berger, V. L. (2015). Exploring the religious and spiritual coping experience of cases via cancer: A qualitative research. *Journal of Medicine and Life, 8*(Spec Iss 3), 222-228.

Giovagnoli, A. R., Meneses, R. F., & da Silva, A. M. (2006). The contribution of spirituality to quality of life in focal epilepsy. *Epilepsy & Behavior, 9*(1), 133–139. doi: 10.1016/j.yebeh.2006.04.002

Goldman, L., & Bennet, J. C. (2000). *Cecil textbook of medicine* (21 ed.). Philadelphia: Saunders co.

Goudarzian, A. H., Bagheri Nesami, M., Zamani, F., Nasiri, A., & Beik, S. (2017). Relationship between Depression and Self-care in Iranian Patients with Cancer. *Asian Pacific Journal of Cancer Prevention, 18*(1), 101-106. doi: 10.22034/apjcp.2017.18.1.101

Hebert, R., Zdaniuk, B., Schulz, R., & Scheier, M. (2009). Positive and negative religious coping and well-being in women with breast cancer. *Journal of Palliative Medicine, 12*(6), 537-545. doi: 10.1089/jpm.2008.0250

Heidari, S., Raisi, M., Ahmari-Tehran, H., & Khorami-Rad, A. (2013). Relationship between Religious Activities and Spiritual Health with Glycemic Control in Patients with Diabetes. *Iran Journal of Nursing, 26*(81), 78-87.

Heidari, S., Rezaei, M., Sajadi, M., Mirbagher Ajorpaz, N., & Koenig, H. G. (2017). Religious Practices and Self-Care in Iranian Patients with Type 2 Diabetes. *Journal of Religion and Health, 56*(2), 683-696. doi: 10.1007/s10943-016-0320-x

Heydari Fard, J., & Bagheri Nesami, M. (2012). The relationship between general health and religious coping in elderly residing at homes. *Life Science Journal, 9*(4), 3205-3210.

Hynes, M. H. (1996). Health, an Islamic perspective. *On-line religion in japan. Osaka university. Japan, College of Economics Kanto university*.

Idler, E. L. (1995). Religion, health, and nonphysical senses of self. *Social Forces, 74*(2), 683-704.

Jafari, Y., Rahimi, J., Bknazar, S., Lashkardoost, H., Mohaddes Hakkak, H. R., Mousavi Jajarmi, S. M., & Hoseini, S. H. . (2015). The relationship between religious orientation and self-care practice in patients with type 2 diabetes. *Journal of North Khorasan University of Medical Sciences, 7*(2), 453-463.

Johnston, B., McGill, M., Milligan, S., McElroy, D., Foster, C., & Kearney, N. (2009). Self care and end of life care in advanced cancer: literature review. *European Journal of Oncology Nursing, 13*(5), 386-398. doi: 10.1016/j.ejon.2009.04.003

Kenneth, I. P., & Hahn, J. (1986). God and Just World: Causal and Coping Attribution to God in Health Situations. *Journal for the Scientific Study of Religion, 25*(2), 193-207. doi: 10.2307/1385476

Khezri, L., Bahreyni, M., Ravanipour, M., & Mirzaee, K. (2015). The Relationship between spiritual wellbeing and depression or death anxiety in cancer patients in Bushehr. *Nursing journal of the Vulnerable 2*(2), 15-28.

Khodaveirdyzadeh, R., Rahimi, R., Rahmani, A., Ghahramanian, A., Kodayari, N., & Eivazi, J. (2016). Spiritual/Religious Coping Strategies and their Relationship with Illness Adjustment among Iranian Breast Cancer Patients. *Asian Pacific Journal of Cancer Prevention, 17*(8), 4095-4099.

Kiani, F., & Hesabi, N. (2017). The Relationship Between the Religious Beliefs of the Diabetic Patients and Depression in a Diabetes Clinic in Iran. *Journal of Religion and Health, 56*(4), 1311-1316. doi: 10.1007/s10943-016-0222-y

Koenig, G. K. (2004). Spirituality, wellness, and quality of life. *Sexuality, Reproduction and Menopause, 2*(2), 76-82. doi: 10.1016/j.sram.2004.04.004

Koenig, H. G. (2007). Spirituality and depression: A look at the evidence. *Southern Medical Journal, 100*(7), 737-740. doi: 10.1097/SMJ.0b013e318073c68c

Koenig, H. G., Ford, S. M., George, L. K., Blazer, D. G., & Meador, K. G. (1993). Religion and anxiety disorder: An examination and comparison of associations in young, middle-aged, and elderly adults. *Journal of Anxiety Disorders, 7*(4), 321-342. doi: 10.1016/0887-6185(93)90028-J

Koenig, H. G., George, L. K., Hays, J. C., Larson, D. B., Cohen, H. J., & Blazer, D. G. (1998). The relationship between religious activities and blood pressure in older adults. *Int J Psychiatry Med, 28*(2), 189-213. doi: 10.2190/75jm-j234-5jkn-4dqd

Koenig, H. G., George, L. K., & Titus, P. (2004). Religion, spirituality, and health in medically ill hospitalized older patients. *J Am Geriatr Soc, 52*(4), 554-562. doi: 10.1111/j.1532-5415.2004.52161.x

Koenig, H. G., Hays, J. C., George, L. K., Blazer, D. G., Larson, D. B., & Landerman, L. R. (1997). Modeling the cross-sectional relationships between religion, physical health, social support, and depressive symptoms. *The American Journal of Geriatric Psychiatry, 5*(2), 131-144.

Lazarus, R. S., & Launier, R. (1978). Stress-related transactions between person and environment *Perspectives in interactional psychology* (pp. 287-327): Springer.

Levin, J. S. (1993). *Religion in aging and health: Theoretical foundations and methodological frontiers* (Vol. 166): Sage publications.

Mattlin, J. A., Wethington, E., & Kessler, R. C. (1990). Situational determinants of coping and coping effectiveness. *Journal of Health and Social Behavior, 31*(1), 103-122.

McCoubrie, R. C. , & Davies, A. N. (2006). Is there a correlation between spirituality and anxiety and depression in patients with advanced cancer? *Supportive Care in Cancer, 14*(4), 379. doi: 10.1007/s00520-005-0892-6

Mousavi, S. M., Gouya, M. M., Ramazani, R., Davanlou, M., Hajsadeghi, N., & Seddighi, Z. (2009). Cancer incidence and mortality in Iran. *Annals of Oncology, 20*(3), 556-563. doi: 10.1093/annonc/mdn642

Nelson, C. J. , Rosenfeld, B. , Breitbart, W., & Galietta, M. (2002). Spirituality, religion, and depression in the terminally ill. *Psychosomatics, 43*(3), 213-220. doi: 10.1176/appi.psy.43.3.213

O'Regan, P., & Hegarty, J. (2017). The importance of self-care for fatigue amongst patients undergoing chemotherapy for primary cancer. *European Journal of Oncology Nursing, 28*, 47-55. doi: 10.1016/j.ejon.2017.02.005

Phelps, A. C., Maciejewski, P. K., Nilsson, M., Balboni, T. A., Wright, A. A., Paulk, M. E., . . . Prigerson, H. G. (2009). Religious coping and use of intensive life-prolonging care near death in patients with advanced cancer. *JAMA, 301*(11), 1140-1147. doi: 10.1001/jama.2009.341

Prati, G., & Pietrantoni, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: A meta-analysis. *Journal of Loss and Trauma, 14*(5), 364-388. doi: 10.1080/15325020902724271

Rahnama, P., Javidan, A. N., Saberi, H., Montazeri, A., Tavakkoli, S., Pakpour, A. H., & Hajiaghababaei, M. (2015). Does religious coping and spirituality have a moderating role on depression and anxiety in patients with spinal cord injury? A study from Iran. *Spinal Cord, 53*(12), 870-874. doi: 10.1038/sc.2015.102

Ramirez, S. P., Macêdo, D. S., Sales, P. M. G., Figueiredo, S. M., Daher, E. F., Araújo, S. M., . . . Carvalho, A. F. (2012). The relationship between religious coping, psychological distress and quality of life in hemodialysis patients. *Journal of Psychosomatic Research, 72*(2), 129-135. doi: 10.1016/j.jpsychores.2011.11.012

Shakibazadeh, E., Larijani, B., Shojaeezadeh, D., Rashidian, A., Forouzanfar, M., & Bartholomew, L. (2011). Patients' Perspectives on Factors that Influence Diabetes Self-Care. *Iranian Journal of Public Health, 40*(4), 146-158.

Sharif Nia, H., Pahlevan Sharif, S., Goudarzian, A. H., Allen, K. A., Jamali, S., & Heydari Gorji, M. A. (2017). The Relationship between Religious Coping and Self-Care Behaviors in Iranian Medical Students. *J Relig Health*. doi: 10.1007/s10943-017-0376-2

Stefan, G, Detlev, Z., Christoph, D., Lukas, R., & Azan, K. (1996). Assessment of cancer pain: a prospective evaluation in 2266 cancer patients referred to a pain service. *Pain, 64*(1), 107–114.

Taheri-Kharameh, Z., Saeid, Y., & Ebadi, A. (2017). The relationship between religious coping styles and quality of life in patients with coronary artery disease. *Cardiovascular Nursing, 2*(1), 24-32.

Ursaru, M., Crumpei, I., & Crumpei, G. (2014). Quality of Life and Religious Coping in Women with Breast Cancer. *Procedia - Social and Behavioral Sciences, 114*, 322-326. doi: 10.1016/j.sbspro.2013.12.705

Table 1. Sample characteristics of cancer patients included in the study

| ***Characteristic*** | ***N (%)*** | | ***Characteristic*** | ***N (%)*** |
|---|---|---|---|---|
| Sex | | | Family history of cancer | |
| *Male* | 175(46.1) | | *Yes* | 112(29.5) |
| *Female* | 205(53.9) | | *No* | 268(70.5) |
| Economic status | | | Depression | |
| *Weak* | 110(28.9) | | *Down* | 261(68.7) |
| *Average* | 204(53.7) | | *Up* | 119(31.3) |
| *Good* | 66(17.4) | | Past medical history*** | |
| Education | | | *Cardiac diseases* | 146 (38.42) |
| *Illiterate* | 210(55.3) | | *Respiratory diseases* | 57 (15) |
| *Diploma* | 138(36.3) | | *Gastric diseases* | 141 (37.1) |
| *BS* | 22(5.8) | | *Urinary diseases* | 36 (9.48) |
| *MSs and above* | 10(2.6) | | History of cigarette smoking | |
| Marital status | | | *Yes* | 71(18.7) |
| *Single* | 51(13.4) | | *No* | 309(81.3) |
| *Married* | 329(86.6) | | ***Characteristic*** | ***Mean(SD)*** |
| Cancer stage | | | Age | 46.74(16.328) |
| *One* | 132(34.7) | | PRC* | 18.43(3.11) |
| *Two* | 133(35) | | NRC* | 18.22(3.25) |
| *Tree* | 92(24.2) | | Self-Care | 131.72(12.45) |
| *Four* | 23(6.1) | | | |
| | | | | |

*Positive religious coping
**Negative religious coping
***Number of patients who had these diseases

Table 2. Relationship between self-care and religious coping

| **Variable** | **Self-care** | |
|---|---|---|
| | r | *p* |
| **PRC**[1] | 0.188 | 0.009* |
| **NRC**[2] | - 0.199 | 0.009* |

*$p < 0.005$

[1] Positive religious coping; [2] Negative religious coping

Table 3. Predictors of self-care in cancer patients

| Variable | B | SE | 95% CI | | *p* |
|---|---|---|---|---|---|
| **Education** | | | | | |
| ***Illiterate*** | -5.246 | 3.7516 | -12.599 | 2.107 | 0.162 |
| ***Diploma*** | -5.818 | 3.5709 | -12.817 | 1.181 | 0.103 |
| ***BS*** | -20.578 | 3.9376 | -28.296 | -12.861 | 0.0001[b] |
| ***MSc and upper*** | 0[a] | . | . | . | . |
| **Economic status** | | | | | |
| ***Weak*** | -5.862 | 1.8100 | -9.409 | -2.314 | 0.001[b] |
| ***Average*** | 3.853 | 1.7594 | 0.404 | 7.301 | 0.029[b] |
| ***Good*** | 0a | . | . | . | . |
| **Cancer stage** | | | | | |
| ***One*** | -3.156 | 3.2147 | -9.457 | 3.145 | 0.326 |
| ***Two*** | -3.969 | 2.7284 | -9.317 | 1.379 | 0.146 |
| ***Three*** | -4.179 | 2.9541 | -9.969 | 1.611 | 0.157 |
| ***Four*** | 0[a] | . | . | . | . |
| **Past medical history** | | | | | |
| ***Cardiac diseases*** | -0.861 | 0.42 | -2.106 | 0.23 | 0.086 |
| ***Respiratory diseases*** | -0.913 | 0.513 | -1.961 | 0.142 | 0.091 |
| ***Gastric diseases*** | -0.983 | 0.597 | -2.613 | 0.18 | 0.096 |
| ***Urinary diseases*** | 0[a] | . | . | . | . |
| **Age** | -0.160 | .0604 | -0.278 | -0.042 | 0.008[b] |
| **Sex** | -2.220 | 1.4909 | -5.142 | 0.702 | 0.137 |
| **Marital status** | 13.562 | 2.0982 | 9.450 | 17.675 | 0.0001[b] |
| **History of cigarette smoking** | -6.608 | 1.7115 | -9.962 | -3.253 | 0.0001[b] |
| **Family history of cancer** | -3.099 | 1.3896 | -5.823 | -0.375 | 0.026[b] |
| **PRC[1]** | 0.463 | 0.2704 | -0.067 | 0.993 | 0.087 |
| **NRC[2]** | 0.212 | 0.2145 | -0.208 | 0.633 | 0.322 |

a. Set to zero because this parameter is redundant.
b. Statistically significant at $p \leqslant 0.05$
[1] Positive religious coping; [2] Negative religious coping